

## **REMARKS**

Claims 1-12 and 42-64 are pending in the above-identified application. Claims 1, 7, 9, 10 and 11 have been amended and claims 45-64 have been added. Claims 13-41 have been canceled because they are directed to claims that have been withdrawn from consideration based on a prior restriction requirement, and not for reasons of prior art. Cancellation of claims 13-41 has been made without prejudice to later presentation of these claims in a divisional patent application.

### **Interview**

Applicant appreciates the telephone interview granted by Examiner Jarrett on July 17, 2008. During the interview Applicant, Darryl Landvater, Applicant's counsel, Larry Meier, and Examiner Jarrett discussed the relevance of the prior art applied in the outstanding Office Action, and the invention defined in the claims, as amended above, which were presented informally to Examiner Jarrett prior to the interview. The differences between the claimed invention and the prior art was also discussed. No agreement was reached concerning allowable subject matter as the Examiner indicated that he intended to conduct additional searching in light of the amendments to the claims. The Examiner also indicated that due to recent changes in USPTO examination guidelines for software inventions, a number of the pending claims would likely be determined not to fall within the statutory categories for patentable inventions identified in 35 U.S.C. § 101. Options for amending the claims to satisfy the requirements of 35 U.S.C. § 101 were discussed.

### **37 C.F.R § 1.105 Request for Information**

The outstanding Office Action includes a Request for Information under Rule 105. Applicant responds to this Request as follows:

#### **1. Publications Authored by Applicant**

In response to the request for citations and copies of publications authored or co-authored by Applicant, the following books are relevant:

a. *DRP: Distribution Resource Planning: The Gateway to True Quick Response and Continuous Replenishment*, Martin, Andre J., 1995, John Wiley & Sons, Inc., New York, New York, Revised

Edition. The title page, the table of contents, and Chapter 7, Forecasting, are enclosed.

b. *World Class Production and Inventory Management*, Landvater, Darryl L., 1993, Oliver Wight Publications, Inc., Essex Junction, Vermont. The title page, table of contents and Chapter 5, Demand Management, are enclosed.

c. *MRP II Standard System: A Handbook for Manufacturing Software Survival*, Landvater, et al., 1989, Oliver Wight Limited Publications, Inc, Essex Junction, Vermont. The title page, table of contents and Chapter 5, Demand Management, and Chapter 21, Distribution Resource Planning, are enclosed.

As indicated above, a copy of the title page and table of contents of each of these books, and copies of those sections of these books that are most germane to the claimed invention, accompany Applicant's response to the Request. If the Examiner would like to review additional portions of these books based on information contained in the tables of contents, Applicant will be pleased to provide copies of additional sections of these books.

## **2. Publications Relied Upon by Applicant**

Applicant did not rely on any publications in developing the disclosed subject matter that describes the claimed invention.

## **3. Products Incorporating the Claimed Subject Matter**

The claimed subject matter has been included in a software program licensed by Tomax of Salt Lake City, Utah, and initially entitled "Retail Resource Planning Software" and later renamed "Inventory Management Software." The same software has been licensed by Retail Pipeline Integration Group of Williston, Vermont and entitled "Retail Pipeline Software." Software including the seasonal selling profile subject matter claimed in the above-identified application was first offered for sale (more precisely offered for license) on or after July 5, 2000. Software including subject matter claimed in the above-identified application was first publicly used on or after July 5, 2000. Prior versions of such software were licensed before July 5, 2000, but did not include the seasonal selling profile subject matter claimed in the above-identified application. Applicant does not have product road maps, sales presentations, investor disclosures, case

studies or product brochures. Applicant does have a copy of a confidential user manual for the software which accompanies the response to the Request. Because of the confidential nature of the user manual, Applicant intends to submit a Request to Expunge this manual from the file history following consideration by the Examiner.

Concerning the user manual, the portions most relevant to the claimed invention exist in the portion entitled “General subjects - Forecasting low volume products,” copies of which accompany this response. An electronic version of the entire user manual will be emailed to the Examiner since it apparently cannot be submitted in electronic form (only PDF) via EFS. If other sections of the help manual appear relevant to the Examiner, Applicant will be pleased to supplement the response to the Rule 105 Request to include such additional sections in PDF format.

#### **4. Specific Improvements Over the Disclosed Prior Art**

Applicant’s claimed invention represents an improvement over the prior art, in part, because it avoids overstating demand at the beginning or end of the period in which a sales forecast has been generated. Avoiding such bunching up of demand aligns replenishment shipments more closely with actual demand. This improvement is achieved by determining projected sales with respect to each of a plurality of a low-volume products by evaluating when a mathematical product obtained by multiplying a random number times a summation of numerical representations of seasonal selling profiles for each of the low-volume product for a plurality of second time periods exceeds a threshold. As discussed below in more detail, the known prior art does not teach such multiplication nor does it teach such summation and comparison with a threshold to determine when a projected sale occurs. Other improvements are captured in the pending dependent claims.

#### **5. Prior Art Search**

No prior art search was conducted in response to this Request.

#### **6. Status/Availability**

The three books identified above are not believed to be in print, although Applicant cannot state

with certainty whether or not this is the case. The user manual is provided to customers of the Retail Pipeline Software under obligation of confidentiality. Tomax may also provide the user manual, or a modified version thereof, to customers, although Applicant lacks information sufficient to state with certainty that such distribution occurs.

**Rejection under 35 U.S.C. § 103(a): Masters, Lowson et al. and Jenkins**

Claims 1, 2, 4-9, 11-12 and 41-43 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Masters, James M., *Determination of Near Optimal Stock Levels for Multi-Echelon Distribution Inventories* (1993) (“Masters”) in view of Lowson et al., *Quick Response: Managing the Supply Chain to Meet Customer Demand* (1999) (“Lowson”) and further in view of Jenkins et al., U.S. Patent Publication No. 2002/0188499 (“Jenkins”).

The Masters, Lowson and Jenkins references do not individually teach the application of randomization techniques to seasonal selling profiles with respect to low-volume products. The Masters reference mentions product sales forecasting in the context of low-volume products, but does not appear to mention application of seasonal selling profiles to forecasting for such products. Moreover, as mentioned on the last line of page 168 of the Masters reference, the claimed invention resides in the DRP context for which Masters mentions his approach is not well suited. Master mentions that “[u]nfortunately, DRP is not well suited to deal with the inherently stochastic nature of this situation . . .,” i.e., low-volume products with seasonal variations in sales.

Lowson makes reference to seasonal selling profiles. Unfortunately, Lowson does not teach the use of seasonal selling profiles in the context of low-volume products.

Jenkins teaches the use of time-phased sales forecasts and replenishment shipments, but not with respect to seasonal selling profiles applied to low-volume products.

Thus, all three references applied in the rejection under 35 U.S.C. § 103(a) individually fail to teach the solution to the low-volume product forecasting dilemma recited in claims 1, 2, 4-9, 11-12 and 41-43. The inquiry then shifts to whether or not it would have been obvious to combine bits and pieces of these references so as to achieve the invention recited in the pending claims. Masters says the problem can’t be effectively addressed using a DRP system. Indeed, the problem the present invention addresses has existed since the early days of DRP systems (1975-1980). Even today, the problem motivating the invention exists with contemporary DRP and

other forecasting systems. Accordingly, most retail supply chains use reorder point systems and do not forecast for low-volume products. While Applicant appreciates that a better invention doesn't mean a patentable invention, the unsolved and longstanding nature of the problem addressed by the claimed invention provides an important framework for determining whether or not Applicant's invention recited in claims 1, 2, 4-9, 11-12 and 41-43 would have been obvious.

As indicated in the outstanding Office Action, each of these references alone fails to teach various features of Applicant's claimed invention. Combining references does not create features that do not otherwise exist in the references being combined. Claim 1, for example, calls for the determination of projected sales "with respect to each of said plurality of said low-volume products by evaluating when a mathematical product obtained by multiplying a random number times a summation of said numerical representations of seasonal selling profiles for said each low-volume product for a plurality of second time periods exceeds a threshold."

Concerning multiplication by "a random number," this randomization is not taught in the Masters, Lowson or Jenkins references. These references use a bell-shaped curve (Gaussian), Poisson distribution or binomial distribution (Masters). Using any of these techniques in connection with the claimed invention would yield the results achieved by "multiplying a random number times a summation . . .," as recited in claim 1. Any of the distributions in the prior art would have the effect of overriding the seasonal profiles, as noted above. The randomization in van Ryzin is being applied to the lead time, not the forecast, but would also suffer from the problem discussed above if it were applied to the forecasts.

Regarding the limitation of evaluating when the "mathematical product" exceeds a "threshold," the Masters, Lowson and Jenkins references are not believed to even hint at such an approach. Nowhere do these references suggest summing numerical representations of seasonal selling profiles for each low-volume time period for a plurality of second time periods, e.g., five one-week periods, multiplying such sum by a random number and then determining whether the product of such multiplication exceeds a threshold. Only by additional inventing in light of the teachings of Masters/Lowson/Jenkins could the subject matter of claim 1 be achieved. Such hindsight offends the test for obviousness.

As recited, for example, in new claim 45, when the mathematical product exceeds the threshold, then a projected sale for the one of the second time periods, e.g., the week, in which the threshold is exceeded, is indicated. In other words, a projected sale is "dropped" for such second time period.

The foregoing discussion has focused on claim 1. Independent claims 7, 9 and 11 contain similar language to claim 1, and so are patentable for the same reasons claim 1 is patentable. Further, all claims depending on these independent claims are also patentable as a consequence of this dependency.

Regarding claim 9, the “forecasting means” and “replenishment means” include the computing resource of FIGS. 1 and 2 and described in paragraph 18. These means are also described in FIG. 13 and paragraphs 64-79, and elsewhere in the specification.

**Rejection under 35 U.S.C. § 103(a): Masters, Lowson et al., Jenkins and van Ryzin**

Claim 3 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Masters, Lowson, Jenkins and further in view of van Ryzin, *Analyzing Inventory Costs and Service in Supply Chains* (2001) (“van Ryzin”).

Van Ryzin does not overcome the limitations of the Masters/Lowson/Jenkins combination discussed above. For this reason, and because it depends on claim 1, which is believed to be patentable for the reasons discussed above, claim 3 is believed to be patentable.

**New Claims 45-64**

Other features of Applicants invention are now recited in new claims 45-64. As discussed above with respect to features in claim 1, the references applied in the outstanding rejection do not teach or suggest the features recited in these claims. For this reason, and because claims 45-64 depend on claims that are believed to be patentable for the reasons discussed above, these claims are also patentable.

**Conclusion**

Claims 1-12 and 42-64 are now in condition for allowance for the reasons discussed above. Prompt issuance of a Notice of Allowance is, therefore, respectfully requested.

Respectfully submitted,

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